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The role of sense of coherence and emotion regulation difficulties in the relationship between early maladaptive schemas and grief

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ABSTRACT

Few studies examine the relationship of grief with interrelated and broad concepts. In this study, the role of sense of coherence and emotion regulation difficulties in the relationship between early maladaptive schemas and grief was investigated with individuals ($N = 254$) who have lost a close person in the last 5 years. Mediation and moderated mediation analyses revealed that individuals with early maladaptive schemas may experience more complicated grief symptoms through the effect of early maladaptive schemas. For individuals with self-sacrifice schema, difficulties in the grief process were regulated by moderate to high levels of sense of coherence.

KEYWORDS

Early maladaptive schemas; grief; sense of coherence; emotion regulation difficulties

Prolonged and intense reactions to the loss of a loved one may reduce the functionality of individuals and lead to complicated grief development. Anger, emptiness, guilt, ruminations, avoiding reminders of the lost person, refusing the reality of loss, social withdrawal, exaggerated reactions, or conversely, unresponsiveness can be observed (Bildik, 2013; Shear, 2015; Simon et al., 2020). The extant literature reveals that the intensity of grief reactions can be affected by many different variables.

The schema therapy model developed by Young and colleagues (2003) highlights the importance of early painful experiences in the formation of early maladaptive schemas that affect individuals throughout life in terms of a person's nonfunctional evaluations about self, the world, and their relationship with others. These schemas become structures that are difficult to change since they are repeatedly experienced with different events. Individuals with early maladaptive schemas are prone to develop psychopathologies (Young et al., 2003). Eighteen schema dimensions were grouped under five schema domains by Young et al. (2003). In the Turkish adaptation study, Soygüt et al. (2009) found that 14 schema dimensions were grouped under five schema domains. Since the current study was conducted on a Turkish sample, the model offered by Soygüt et al. (2009) was used. According to this model, the five schema domains were

disconnection and rejection, impaired autonomy, impaired limits, other-directedness, and unrelenting standards. The disconnection and rejection domain includes emotional deprivation, emotional inhibition, social isolation/mistrust, defectiveness schemas. The common feature of these schemas is the belief that one cannot establish and maintain close, warm relationships with others. Impaired autonomy domain includes enmeshment/dependency, abandonment, failure, pessimism, vulnerability to harm schemas. Individuals with these schemas believe that they cannot live a life independent of others. The only schema dimension in the impaired limits domain is insufficient self-control/self-discipline schema based on self-control deficiency. In the other-directedness domain, self-sacrifice and punitiveness schemas are present. The common belief in people with these schemas is to focus on others to a level that ignores their own needs. The unrelenting standards domain contains unrelenting standards and approval-seeking schemas. For people with these schemas, getting excluded by others is catastrophic and getting consent is extremely important (Soygüt et al., 2009; Young et al., 2003).

In stressful situations, distress can trigger schemas (Cockram, 2010). Since the death of a close person is considered one of the most stressful experiences, early maladaptive schemas may impede the normal adjustment process after a loss. Therefore, complicated grief

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symptoms may be observed. Thimm and Holland (2017) found that self-sacrifice, vulnerability to harm, and abandonment schemas are associated with complicated grief.

Emotion regulation is an early developing ability in goal-directed management of internal representations and external expressions of emotions (Gross, 1998). Overly emotion-loaded situations like loss require successful emotion regulation for individuals to maintain functionality in daily life (Hooghe et al., 2012; Shear, 2012). Since loss is such a sensitive situation, the emotion regulation process can be interrupted and can become maladaptive, which is called emotion dysregulation (Cole et al., 1994). In this case, the emotion regulation process may not enable goal-directed emotional responses, or the outcomes may not be effective in the long run. In case of traumatic loss, uncontrollable emotions can appear, leading the person to avoid their emotions (Bardeen et al., 2013; Cockram et al., 2010). Avoiding loss-related stimuli during the period of recovery may lead to more distress (Boelen & Eisma, 2015). Moreover, ruminations about loss-related emotions and appropriateness of emotional reactions may be determinants of complicated grief. Ruminations can include beliefs and emotions about the causes and consequences of the death, the meaning of loss, and the injustice of the loss. These can be effective in problems for emotional adaptation, which is essential for emotion regulation. Thus, bereaved individuals may have more depressive or anxious grief experiences (Eisma & Stroebe, 2017). Conversely, studies have revealed that higher emotional awareness and higher emotion regulation abilities reduce the likelihood of complicated grief even after multiple losses (Castro & Rocha, 2013).

Sense of coherence can be defined as an ability to overcome stressful situations using the person's resources. This ability develops from previous experiences of successfully coping with various stressful life events (Antonovsky, 1987). It encompasses comprehensibility, manageability, and meaningfulness elements that affect a person's perception regarding situations and methods used to handle these more healthily. Thus, being aware of these resources helps individuals to overcome stressors and using them appropriately contributes to maintaining health (Antonovsky, 1993). Higher comprehensibility helps to handle traumatic events like finding out that a loved one has died or even witness death. Higher manageability contributes to understanding that losses are also a part of the dynamic structure of life. Thus, it facilitates the acceptance of loss. Higher

meaningfulness helps an individual to perceive tragic situations as a way of getting stronger. The presence of these components helps to reduce the distress that may be experienced after loss (Dudek & Koniarek, 2000). A study conducted with individuals who lost their spouses found a negative relationship between sense of coherence and depression/anxiety levels of participants (López et al., 2015). As the sense of coherence level increases, physical and psychological symptoms of participants decrease. In a recent study conducted with parents who lost their children, Einav and Margalit (2020) found that sense of coherence emerges as an indicator of resilience against negative mood during grief. Studies examining the relationship between perceptions about self and grief support these findings. If a bereaved person perceives the loss of a loved one as more central to his or her own life or identity, more difficulties are expected in the grief process. Similarly, if a bereaved person's goals and anticipations about self and life after the loss are not realistic, the adjustment may become more distressing (Boelen, 2017; Maccallum & Bryant, 2013). Thus, a stronger sense of coherence is one of the determinants of healthier management of the grief process.

The literature reveals that both early maladaptive schemas and emotion regulation difficulties develop early in life by the influence of the relationship with the caregiver. Their effects can continue throughout life, which can complicate the ability to cope with loss and lead to more complex grieving. Moreover, Young and colleagues (2003) state that individuals with early maladaptive schemas may experience more emotion regulation difficulties depending on the features of the schemas they have. So, emotion regulation difficulties may play a mediating role in the relationship between early maladaptive schemas and grief. Conversely, sense of coherence can act as a protective factor in the face of such a situation and may contribute to the reduction of difficulties because it helps individuals to explore personal resources and use them flexibly. Therefore, sense of coherence may play a moderating role in that mediated relationship. To date, numerous grief studies revealed the need for studying grief with broader concepts that interact with one another rather than specific variables (Einav & Margalit, 2020).

We attempted to address this need by including interrelated, personal concepts that may positively and negatively affect bereavement. There are studies regarding the relationships between grief and mentioned variables separately. However, to our knowledge, the present study is the first to explore relationships among early maladaptive schemas,

emotion regulation difficulties, and sense of coherence on grief. This study investigates the role of sense of coherence and emotion regulation difficulties in the relationship between early maladaptive schemas and grief symptoms with a descriptive perspective. All schema dimensions can be associated with grief responses due to their maladaptive nature. However, the relevant literature suggests that in a model with different variables, specific features of each schema may affect the results differently (Boelen et al., 2006; Thimm & Holland, 2017). For our study, each schema dimension was tested separately in the proposed model. We hypothesized that sense of coherence has a moderating role in the indirect effect of early maladaptive schemas on grief through the mediating role of emotion regulation difficulties. We also hypothesized that the grief response of individuals who have early maladaptive schemas is predicted through the mediating role of emotion regulation difficulties.

Method

Participants

Data were collected from participants residing in different cities of Turkey. Participants were recruited from the general public by using snowball and other sampling methods, such as posting an invitation to participate on social media. Participants could take part if they had a loss experience in the last five years, and if they were 18 years and over. They could not take part if they did not fill out all the scales and if they had a psychological/psychiatric disorder. The sample ($N = 254$) consisted of 115 (45.3%) men, 136 (53.5%) women, and 3 (1.2%) participants who preferred not to disclose their gender. Participants were aged between 18 and 73 years ($M = 42.73$, $SD = 15.08$). Among the participants, 21.7% were single, 11.4% were in a relationship, 63.4% were married, and 3.5% were divorced. Furthermore, 1.2% of the sample had primary school, 2.4% had secondary school, 21.3% had high school, 54.7% had university, 9.1% had postgraduate education, and 11.4% were university/postgraduate students.

Procedure

We obtained ethical approval from Başkent University Social and Human Sciences and Art Research Committee (Approval no. 17162298.600-265). We collected data between June 2019 and September 2019 via a pencil–paper and an online form. We prepared

the online form using Qualtrics software. All participants provided written informed consent.

Measures

Sociodemographics

A sociodemographic information form was developed to collect information including age, sex, marital status, education level, psychiatric disorder, and loss experienced in the last 5 years.

Bereavement

The Two-track Bereavement Questionnaire (TTBQ) is a self-report scale developed by Rubin et al. (2009) based on the two-track bereavement model. The scale has 70 items assessing general or biopsychosocial functioning (Track I) and ongoing relationships with the deceased (Track II). Responses were given on a 5-point Likert scale. Higher scores indicate more difficulties and adjustment problems in the grief process. The scale was adapted into Turkish by Ayaz et al. (2014). In the adaptation study, “the general biopsychosocial functioning” factor showed a different pattern, and it was named as “an impairment in the social functioning.” In the present study, the total score of the scale was used. The internal consistency for the total scale was established at .91.

Sense of coherence

The Sense of Coherence Scale—Short Form (SOC-13) is a self-report instrument developed by Antonovsky (1993) as a short version of Sense of Coherence Scale. This 13-item scale is rated on a 7-point Likert scale. Higher total scores indicate a higher sense of coherence. The scale was adapted to the Turkish language by Scherler and Lajunen (1997). In the present study, the total score of the scale was used. Internal consistency of the total scale was established at .76.

Difficulties in emotion regulation

The Difficulties in Emotion Regulation Scale—Brief Form (DERS-16) is a self-report instrument developed by Bjureberg et al. (2016) as a short version of The Difficulties in Emotion Regulation Scale. This 16-item scale is rated on a 5-point scale (ranging from 1 = *almost never* to 5 = *almost always*). Higher total scores indicate higher emotion dysregulation. The scale was adapted into Turkish by Yiğit and Guzey Yiğit (2019). In the present study, the total score of the scale was used. Internal consistency of the total scale was established at .94.

Table 1. Descriptive statistics of the variables.

Variable	Subscales	<i>N</i>	Mean	SD	Range	Variance	Min.	Max.
Participant age		254	42.73	15.08	55	227.47	18	73
Number of years after loss		254	2.15	1.6	5	2.57	0	5
Age of deceased		254	68.01	18.32	98	335.61	0	98
EMS	EmotDepr	254	9.51	4.64	21	21.48	5	26
	EmotInh	254	10.86	4.78	23	22.89	5	28
	SocIsol	254	10.87	4.41	19	19.48	5	24
	Defect	254	9.61	4.36	20	19.01	6	26
	EnmDepe	254	16.04	6.77	30	45.84	9	39
	Aband	254	9.19	4.26	19	18.14	5	24
	Fail	254	11.2	5.08	27	25.78	6	33
	Pessim	254	11.32	5.63	25	31.66	5	30
	VulnHar	254	11.2	4.92	21	24.21	5	26
	InsSelf	254	21.39	7.53	33	56.73	7	40
	SelfSac	254	15.8	5.88	25	34.53	5	30
	Punit	254	19.65	6.8	29	46.23	6	35
	UnrelSt	254	8.75	3.83	15	14.7	3	18
	ApprSee	254	18.89	6.69	30	44.82	6	36
ERD		254	34.08	13.04	63	169.96	16	79
SOC		254	56.68	11.19	69	125.26	22	91
Grief		254	153.01	30.96	162	958.71	79	241

EMS: early maladaptive schemas; EmotDepr: emotional deprivation schema; EmotInh: emotional inhibition schema; SocIsol: social isolation/mistrust schema; Defect: defectiveness schema; EnmDepe: enmeshment/dependency schema; Aband: abandonment schema; Fail: failure schema; Pessim: pessimism schema; VulnHar: vulnerability to harm schema; InsSelf: insufficient self-control/self-discipline schema; SelfSac: self-sacrifice schema; Punit: punitiveness schema; UnrelSt: unrelenting standards schema; ApprSee: approval-seeking schema; ERD: emotion regulation difficulties total score; SOC: sense of coherence total score; Grief: grief total score.

Schemas

The Young Schema Questionnaire—Short Form Version 3 (YSQ-S3) is a self-report instrument developed by Young et al. (2003) to assess 18 schemas. This 90-item version is rated on a 6-point scale (ranging from 1 = *completely untrue for me* to 6 = *describes me perfectly*). Higher scores on the scale indicate more maladaptive beliefs. This questionnaire was adapted to Turkish by Soygüt et al. (2009). In the Turkish version of the scale, 14 schema dimensions were grouped under five schema domains. In the present study, total scores of the schema dimensions were used, and internal consistencies of the dimensions ranged between .72 and .84.

Statistical analyses

Prior to data analysis, data cleaning procedures were carried out. The data set met the assumptions of the statistical analyses (Tabachnick & Fidell, 2007). IBM SPSS Statistics 20.00 packaged software (SPSS, Chicago, IL) and the Process Macro for SPSS (Process v3.4) were used to perform the statistical analyses.

The proposed model of the study was tested via the Bootstrapping procedure of Preacher and Hayes (2008). Conditional indirect effect analysis as Model 14 in Process Macro (Hayes, 2018) for SPSS with 5000 resamplings and 95% confidence interval was performed. Following moderated mediation analyses, a simple mediation analysis (Model 4) was performed to examine the mediating role of emotion regulation difficulties between early maladaptive schemas and grief.

Results

Participants' mean score on schema dimensions was between 8.75 ($SD = 3.83$) and 21.39 ($SD = 7.53$). The mean score of emotion regulation difficulties was 34.08 ($SD = 13.04$). The mean score of sense of coherence was 56.68 ($SD = 11.19$). The mean score of grief was 153.01 ($SD = 30.96$). Table 1 shows the descriptive statistics.

All schema dimensions were entered in the mediation analysis as an independent variable, respectively. The conceptual model of the analysis can be seen in

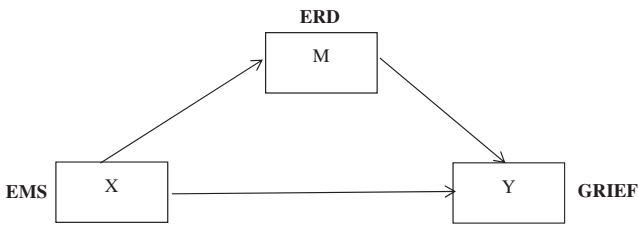


Figure 1. Mediation analysis modeling. *Note.* X: independent variable; M: mediator variable; Y: dependent variable.

Table 2. Simple mediation model for EMS, ERD, and grief.

	Effect	BootSE	LLCI	ULCI
EmotDepr→ERDTotal→TTBQTot	.55*	.16	0.28	0.91
EmotInh→ERDTotal→TTBQTot	.76*	.23	0.37	1.26
SocIsol→ERDTotal→TTBQTot	.68*	.30	0.09	1.27
Defect→ERDTotal→TTBQTot	.80*	.25	0.32	1.29
EnmDepe→ERDTotal→TTBQTot	.57*	.20	0.21	0.99
Aband→ERDTotal→TTBQTot	.79*	.25	0.32	1.28
Fail→ERDTotal→TTBQTot	.83*	.24	0.39	1.32
Pessim→ERDTotal→TTBQTot	.55*	.25	0.07	1.07
VulnHar→ERDTotal→TTBQTot	.69*	.21	0.29	1.11
InsSelf→ERDTotal→TTBQTot	.59*	.15	0.39	0.91
SelfSac→ERDTotal→TTBQTot	.46*	.16	0.18	0.82
Punit→ERDTotal→TTBQTot	.53*	.14	0.27	0.83
UnrelSt→ERDTotal→TTBQTot	.85*	.25	0.42	1.40
ApprSee→ERDTotal→TTBQTot	.65*	.20	0.30	1.07

Note. EmotDepr: Emotional deprivation schema; EmotInh: emotional inhibition schema; SocIsol: social isolation schema; Defect: defectiveness schema; EnmDepe: Enmeshment/dependency schema; Aband: Abandonment schema; Fail: Failure schema; Pessim: Pessimism schema; VulnHar: Vulnerability to harm schema; InsSelf: Insufficient self-control/self-discipline schema; SelfSac: Self-sacrifice schema; Punit: Punitiveness schema; UnrelSt: Unrelenting standards schema; ApprSee: Approval seeking schema; LLCI: Lower level for confidence interval; ULCI: Upper level for confidence interval; BootSE: Standard error.

*Mediation effect is significant.

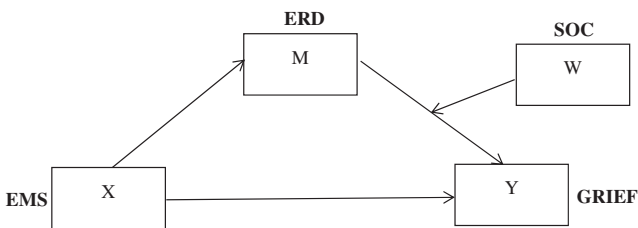


Figure 2. Conceptual model of moderated mediation analysis. *Note.* X: independent variable; M: mediator variable; Y: dependent variable; W: moderator variable.

Figure 1. Results revealed that emotion regulation difficulties mediate the relationship between all schema dimensions and grief (effect sizes were between .46 and .85). Values regarding simple mediation analyses are provided in Table 2.

The conceptual model of the moderation analysis can be seen in Figure 2. All schema dimensions were entered in the analysis as an independent variable, respectively. According to the results, self-sacrifice schema is the only schema dimension that supports the proposed model. Bootstrapping results showed

that the index of moderated mediation was significant (index = 0.02, SE = 0.009, 95% CI: 0.00, 0.038). Accordingly, the conditional indirect effect was significant at the mean (95% CI: 0.106, 0.810) and upper (95% CI: 0.251, 1.155) levels of sense of coherence; however, it was not significant at the lower (95% CI: -0.143, 0.610) level of sense of coherence. Thus, moderate to high levels of coherence has a moderating role in the indirect effect of self-sacrifice schema on grief through the mediating role of emotion regulation difficulties. This means that the severity of grief responses of individuals with self-sacrifice schema and higher emotion regulation difficulties can be regulated if sense of coherence of individuals is higher.

Discussion

In line with our hypothesis, analysis revealed that emotion regulation difficulties mediate the relationship between all schema dimensions and grief. Developmentally, both early maladaptive schemas and emotion regulation difficulties are formed early in life via the effect of maladaptive ways of interaction between children and caregivers. Unhealthy responses of caregivers toward children may lead to permanent emotion regulation difficulties and early maladaptive schemas in children (Hooghe et al., 2012; Young et al., 2003). A number of previous studies have revealed that emotion regulation difficulties increase the risk of psychopathologies (Kring & Sloan, 2010). Emotion regulation is one of the most critical abilities to conceive a successful way of coping. Successful coping facilitates maintaining adaptive functioning in the face of stressful life events. So, if individuals have emotion regulation difficulties, they may fail to handle difficulties caused by the loss of the loved one, leading to the development of complicated grief (Döveling, 2015; Hooghe et al., 2012; Shear, 2012). Conversely, higher emotional awareness, an integral part of the emotion regulation process, is associated with lower rates of complicated grief (Castro & Rocha, 2013). In addition, Cesur (2017) found that emotion regulation difficulties affect the complicated grief level through negative grief cognitions. People can develop negative cognitions or attribute catastrophic meanings to grief responses due to the intensity of emotions and the inability to regulate them after loss. Our result is supporting Castro and Rocha (2013), Boelen and Eisma (2015), and Cesur (2017) in terms of the effects of emotional strains and regulation problems on experiencing more difficulties in the grief process.

Exploring the contributions of early maladaptive schemas to the schema domains may provide a better understanding of the mediation analysis results. In the disconnection and rejection domain (emotional deprivation, emotional inhibition, social isolation/mistrust, defectiveness schemas), the dominant belief is that stable and affectionate attachments cannot be established with others (Young et al., 2003). Losing a close person may trigger these beliefs in individuals with these schemas. Also, these beliefs can become stronger, and complicated grief symptoms can be observed due to the increased emotion regulation difficulties. In the impaired autonomy domain (enmeshment/dependency, abandonment, failure, pessimism, vulnerability to harm schemas), the idea of not being able to be independent of others is present (Young et al., 2003). When people with these schemas lose a loved one, they may feel like they have also lost the support required for them to continue functioning. Their grief may become complicated via increased dysregulated emotions, which may worsen the yearning. In the impaired limits domain (insufficient self-control/self-discipline schema), the main characteristic is the deficiency in self-control (Young et al., 2003). After a loss, people with this schema may feel discomfort because of the responsibilities they will need to take on. Also, emotion regulation difficulties appear as a feature of the schema, which may intensify the grief responses. In the other-directedness domain (self-sacrifice, punitiveness schemas), fulfilling others' needs and ignoring one's own needs are generally encountered (Young et al., 2003). Losing a close person may make people with these schemas feel like their purpose in life has diminished. Higher levels of emotion regulation difficulties may lead to more significant difficulties in coping with negative emotions, and people may experience more complicated grief processes. Finally, the main feature of the unrelenting standards domain (unrelenting standards, approval-seeking schemas) is being in a struggle for not being excluded by others and gaining approval from others (Young et al., 2003). When individuals with these schemas lose a person they love, they may try to modify their behavior according to the standards they have determined. Emotion regulation difficulties, such as suppressing or avoiding emotions, may prevent them from showing adaptive mourning responses. As a result, they may experience prolonged and complicated grief symptoms.

According to the moderated mediation analysis results, moderate to high levels of sense of coherence has a moderating role in the indirect effect of self-

sacrifice schema on grief via the mediating role of emotion regulation difficulties. In other words, when individuals who have self-sacrifice schema encounter the loss of a close person, the severity of their grief responses occur through the higher emotion regulation difficulties and can be regulated by the sense of coherence if individuals have moderate to high levels of sense of coherence.

Voluntarily fulfilling the needs of others perceived as in need is the main characteristic of the self-sacrifice schema. People with this schema are overly sensitive to others (Young et al., 2003). Loss may trigger some beliefs in these individuals, such as being guilty because of having failed to meet the needs of the person they have lost. Furthermore, they may try to stand by other people affected by this loss while ignoring their mourning. Difficulties in emotion regulation stages like cognitive change or response modulation may cause these maladaptive beliefs and behaviors to become stronger. In this way, complicated grief can develop. However, people with moderate to high levels of sense of coherence may perceive the loss less stressful. A higher sense of coherence helps individuals accept the issue more efficiently by helping them to understand that death is one of the inevitable facts for humans. Also, since sense of coherence contributes to staying stronger against painful experiences, dealing with loss may become easier for these people (Antonovsky, 1987; Dudek & Koniarek, 2000). This result of our study supports the findings of Lopez et al. (2015) and Einav and Margalit (2020) in terms of the positive effect that sense of coherence shows as a personal resilience factor after the loss of a close person.

Our analysis yielded significant results for only the self-sacrifice schema, which can be evaluated from different perspectives. First, although Antonovsky (1987) describes sense of coherence as an intercultural structure, most of the sense of coherence research has been carried out in individualistic cultures (Braun-Lewensohn & Sagy, 2011; Nosheen et al., 2017). According to Braun-Lewensohn and Sagy (2011), people living in collectivistic societies may not develop sense of coherence as much as those living in individualistic societies because sense of coherence development requires evaluations about mostly individual-based experiences. So, sense of coherence may not act as a protective factor against stressful life events in more collectivistic, traditional, or religious cultures. Since Turkey is considered to have a more collectivistic culture, the lack of regulatory effect of a

sense of coherence in the proposed model may be cultural.

Second, sense of coherence development continues until early adulthood years via repeated healthy management of stressful situations (Antonovsky, 1987, 1993). However, early maladaptive schemas are formed quite early on in life, and their formation can prevent handling difficulties healthfully (Young et al., 2003). Thus, having these schemas may block sense of coherence development to moderate or high levels required for moderation. In this way, the absence of regulatory effect may be due to the location of sense of coherence and early maladaptive schemas in the developmental process. Exception of the self-sacrifice schema may also be due to a cultural effect. According to Browning (2017), definitions of self-sacrifice schema and collectivism in Eastern cultures are highly similar. In Eastern cultures, the rate of individuals with self-sacrifice schema can be higher because of this similarity. From this point of view, since self-sacrifice schema can appear as a reflection of the culture in collectivistic societies, it may not prevent the development of sense of coherence. Considering the effects of Eastern culture in Turkey, self-sacrifice schema may emerge as a part of culture rather than a maladaptive structure like other schemas.

Finally, self-sacrifice may be related to one's life philosophy, the general perspective regarding life. Self-sacrifice schema is located under the other-directedness domain, which is the only schema domain that directly centers on other people rather than a person's self. Other schemas may not be directly related to sense of coherence at a philosophical level. Being self-oriented and struggling against the beliefs and perceptions about self in the face of grief are indicators of lower resilience and coping abilities (Boelen, 2017; Maccallum & Bryant, 2013). As Einav and Margalit (2020) state, sense of coherence is a resilience indicator in the grief process. So, having schemas that are mostly self-oriented may be hindering the moderating effect of the sense of coherence in the model being studied.

Our study supports the cognitive attachment model for prolonged grief proposed by Maccallum and Bryant (2013). According to the cognitive attachment model, autobiographical memory, identifying self-identity with the deceased person, maladaptive beliefs and appraisals, and maladaptive emotion regulation strategies play a role in explaining prolonged grief. Similarly, our model relates the beliefs and emotion regulation difficulties that individuals acquired early in life with the difficulties in the grief process. Also,

we found evidence that sense of coherence, which is closely related to self-identity, may reduce these difficulties.

The study relied on self-reported data and participants' experience of loss was limited to five years. Since this is a cross-sectional study, we did not have the chance to measure and compare the grief reactions of the participants at different time intervals after loss. Considering that it may have a confounding effect, we checked the relationship between the years passed after the loss and grief. Since there was no correlation between the two variables, the time of the loss was not included in the model as a confounding variable. However, future longitudinal studies with the same variables will be helpful to test the effect of time. Other studies suggested that closeness to the deceased person may affect the complexity of difficulties experienced in a grief process (Cesur, 2017; Kersting et al., 2011). In our study, when asked about closeness, most participants chose the "other relatives" option. Hence, future studies may shed further light on the role of perceived closeness with the deceased person. In the present study, the moderating role of sense of coherence was found in only one model. This result was associated with the development of these concepts in individuals and the culture in which the research was conducted. Nevertheless, further research on the relationships between the variables mentioned above and culture is needed.

This study reveals the importance of early life experiences and perceptions about self on the complexity of the grief process of individuals. Findings support and contribute to the literature of the schema therapy model and emotion regulation difficulties. They also partly support sense of coherence literature. This study has important implications for clinical practice. Focusing on early experiences in bereaved individuals may help understand the roots of their difficulties. Identifying specific schemas, emotional experiences, and coping strategies of patients may contribute to case formulation and treatment plans. Extending the understanding of sense of coherence, focusing not only on risk factors but also on protective factors, may help target the complicated symptoms after loss. Future longitudinal studies including qualitative methods can confirm the current research findings.

Ethical approval

All procedures performed were in accordance with the ethical standards of the Başkent University Ethical Committee for Social and Humanities Sciences (Approval:

17162298.600-265), and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Disclosure statement

The authors declare that they have no conflict of interest.

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